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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,102

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Daisuke Kanenari

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CONNOLLY BOVE LODGE & HUTZ LLP

1875 EYE STREET, N.W.

SUITE 1100

WASHINGTON, DC 20006

EXAMINER

PAK, HANNAH J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,102	Applicant(s) KANENARI ET AL.	
	Examiner Hannah Pak	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 7-14 and 16-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-6 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/31/2006 and 05/07/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II, claims 4-6 and 15, in the reply filed on 05/07/2009 is acknowledged.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Double Patenting I

2. Claims 4-6 and 15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 11-12, 19, 22, and 25-27 of copending Application No. 10/582,238, hereinafter referred to as "U.S. Appl. '238" (US 2007/0106014) in view of Harada et al. (Machine Translation of JP 09-

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059430). Although the conflicting claims are not identical, they are not patentably distinct from each other.

The instant application and the U.S. Appl. '238 claim a method for producing a polymer composition and a masterbatch containing a filler comprising spraying and drying a liquid having rubber latex under an atmosphere of a shock wave generated from pulse combustion. Both the instant application and the U.S. Appl. '238 also claim a frequency of the pulse combustion is 50-1200 Hz and a temperature of a drying chamber of the atmosphere of the shock wave generated from pulse combustion from spraying the liquid is 140 degrees Celsius or less. The U.S. Appl. '238 claim the resulting mixture before drying has a viscosity at 25 degrees Celsius of 3000 mPa · s or less, which overlaps with those recited in the instant application (Compare claims 5, 11, 19 and 25 with claim 5 of the instant application), see *MPEP* § 2144.05.

The U.S. Appl. '238 does not specify its filler as short fibers and its appropriate particle size as required by the instant application.

However, Harada et al. teach using polyamide staple fibers having a preferable diameter size of 0.05-0.8 micrometer mixed with rubber to obtain high elasticity and high wear resistance (Paragraphs 6-9).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to employ the fibrous fillers taught by Harada et al. having the claimed particle size to obtain desired properties.

This is a provisional obviousness-type double patenting rejection.

3. Claims 4-6 and 15 directed to an invention not patentably distinct from claims 1-6, 11-12, 19, 22, and 25-27 of commonly assigned Application No. 10/582,238, hereinafter referred to as "U.S. Appl. '238" (US 2007/0106014). Specifically, please refer to the discussion in paragraph 2 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned U.S. Appl. '238, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 4, 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minagawa et al. (Machine Translation of JP 2001-164052) in view of Mansour et al. (WO 97/18426) and Edwards et al. (GB 2138430).

Minagawa et al. disclose a masterbatch produced by stirring and blending aramid staple fiber and natural rubber latex (Paragraphs 5-9 and 12-13). The aramid staple fiber has a preferred diameter of 0.5-1000 micrometers (Paragraph 10), which overlaps with those recited, see MPEP § 2144.05.

Mingawa et al. do not specifically mention spraying their resulting mixture for drying under an atmosphere of a shock wave generated from by pulse combustion.

However, Mansour et al. teach an apparatus useful for drying a solid material contained within the slurry (Page 4, lines 1-6). The apparatus has a pulse combustion device, which contains a drying chamber to be shaped to conform to the outer boundaries of a spray of the combustion products emitted by its nozzle (Page 5, lines 10-15). The pulse combustion device can produce an acoustic pressure wave at a

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frequency of from about 50 Hz-500 Hz (Page 5, lines 16-25), which is encompassed by the range recited in claims 6 and 15. Mansour et al. further teach that the pulse combustion device enhances heat and mass transfer rates thereby aiding faster and more uniform drying and results in superior product quality (Page 17, lines 30-35).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to use the spraying and drying methods set forth by Mansour et al. to obtain desired properties.

Regarding claims 6 and 15, Mingawa et al. and Mansour et al. do not mention the specific temperature of the drying chamber. However, Mansour et al. disclose using effective temperature in the drying chamber of the pulse combustion device (Page 16, line 5-Page 17, line 15). Mansour et al. further teach that the pulse combustion device enhances heat and mass transfer rates thereby aiding faster and more uniform drying and results in superior product quality (Page 17, lines 30-35). Since the temperature of the drying chamber affects the resulting product, the temperature is the results-effective variable. Therefore, the optimum or workable temperature in the drying chamber to obtain final product with desired properties is well within the skill of one ordinary in the art, see *MPEP* § 2144.05, *IIB*.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minagawa et al. (Machine Translation of JP 2001-164052) in view of Mansour et al. (WO 97/18426) as applied to claims 4, 6, and 15, and further in view of Edwards et al. (GB 2138430).

The disclosures with respect to Mingawa et al. and Mansour et al. in paragraph 4 are incorporated here by reference. They do not mention the specific viscosity of the mixture.

However, Edwards et al. teach the mixture containing specific amount of water, fibrous material, and rubber can readily form very thick suspensions of high viscosity (Page 1, lines 20-65). Since the amount of the mixture affects the viscosity, the mixture is the results-effective variable.

Therefore, the optimum or workable amount of the mixture to obtain the claimed viscosity is well within the skill of one ordinary in the art.

5. Claims 4-6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. (GB 2138430) in view of Mansour et al. (WO 97/18426) and Minagawa et al. (Machine Translation of JP 2001-164052).

Edwards et al. disclose a mixture of a polymer, such as rubber latex, and a fibrous material, e.g. aramid fibres, contained in an aqueous suspension (Page 1, lines 20-50).

Although Edwards et al. mention drying the mixture with a hot air drier or other means (Page 2, lines 60-65), Edwards et al. do not specifically mention spraying their resulting mixture for drying under an atmosphere of a shock wave generated from by pulse combustion.

However, Mansour et al. teach an apparatus useful for drying a solid material contained within the slurry (Page 4, lines 1-6). The apparatus has a pulse combustion

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device, which contains a drying chamber to be shaped to conform to the outer boundaries of a spray of the combustion products emitted by its nozzle (Page 5, lines 10-15). The pulse combustion device can produce an acoustic pressure wave at a frequency of from about 50 Hz-500 Hz (Page 5, lines 16-25), which is encompassed by the range recited in claims 6 and 15. Mansour et al. further teach that the pulse combustion device enhances heat and mass transfer rates thereby aiding faster and more uniform drying and results in superior product quality (Page 17, lines 30-35).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to use the spraying and drying methods set forth by Mansour et al. to obtain desired properties.

As to claim 4, Edwards do not mention the specific particle size of their aramid fibrous material. However, Mingawa et al. teach using aramid staple fiber having a preferred diameter of 0.5-1000 micrometers (Paragraph 10), which overlaps with those recited, see MPEP § 2144.05. Mingawa et al. further teach that the aramid fibers are excellent reinforcing agents and have advantageous properties, including high rigidity, good processability and moldability (Paragraph 9). Thus, it would have been obvious to one of ordinary skill in the art to employ the aramid fibers taught by Mingawa et al. as the aramid fibers of Edwards et al. to obtain desired properties.

Regarding claims 4, 5 and 15, Edwards et al. do not mention the specific temperature of the drying chamber and the viscosity of the mixture. However, Mansour et al. disclose using effective temperature in the drying chamber of the pulse combustion device (Page 16, line 5-Page 17, line 15). Mansour et al. further teach that

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the pulse combustion device enhances heat and mass transfer rates thereby aiding faster and more uniform drying and results in superior product quality (Page 17, lines 30-35). Since the temperature of the drying chamber affects the resulting product, the temperature is the results-effective variable. In addition, Edwards et al. teach the mixture containing specific amount of water, fibrous material, and rubber can readily form very thick suspensions of high viscosity (Page 1, lines 20-65). Since the amount of the mixture affects the viscosity, the mixture is the results-effective variable. Therefore, the optimum or workable temperature in the drying chamber to obtain final product with desired properties is well within the skill of one ordinary in the art, *see MPEP § 2144.05, IIB*. Moreover, the optimum or workable amount of the mixture to obtain the desired properties, including the claimed viscosity, is well within the skill of one ordinary in the art.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hannah Pak whose telephone number is (571) 270-5456. The examiner can normally be reached on Monday - alternating Fridays (7:30 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hannah Pak
Examiner
Art Unit 1796

/HP/

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796